The Dark-Side of Banks' Non-bank Business: Internal Dividends in Bank Holding Companies

Jonathan Pogach[1] Haluk Unal[1,2]

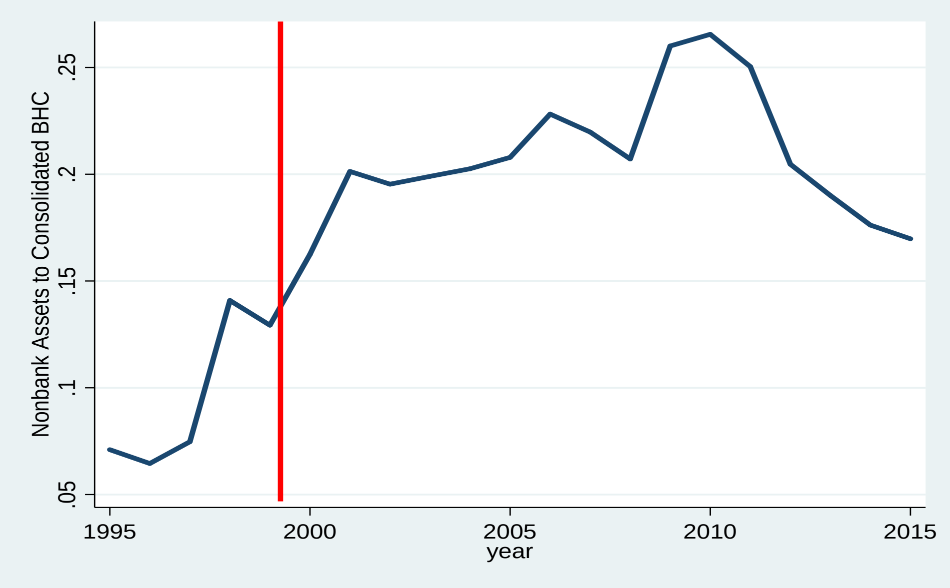
[1]Federal Deposit Insurance Corporation

[2]University of Maryland, R.H. Smith School of Business

FDIC/JFSR, September 2018

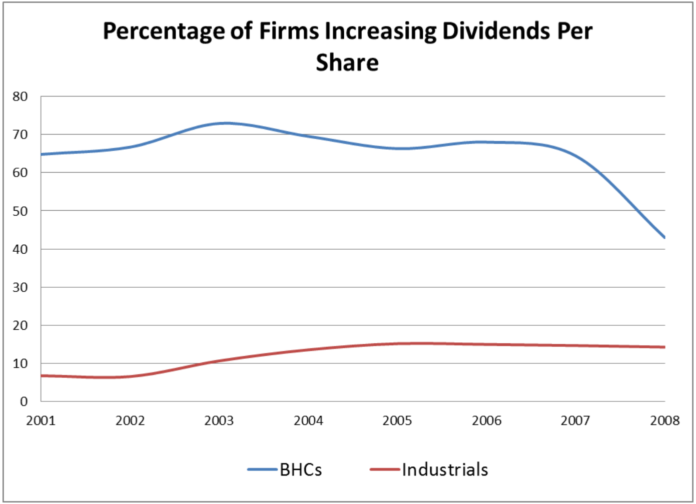
The views and opinions expressed here are those of the authors and do not necessarily reflect the views of the Federal Deposit Insurance Corporation.

Rise of Non-bank Subsidiaries and Gramm Leach Bliley



External Dividends at Bank Holding Companies

- BHCs pay higher and persistent dividends relative to industrial firms Floyd, Li, and Skinner (2015) and into crisis, Acharya, Gujral, Kulkarni, and Shin (2013)



Source: Floyd, Li, and Skinner (JFE 2015)

Research Questions

- How do BHCs manage internal dividends among different segments, specifically subsidiary banks and non-banks?
  - Income from subsidiaries
  - External payout policy
  - Funding non-bank investments
- Do internal dividends support efficient segments?
- Does non-bank expansion affect the payout policy and capitalization of the affiliated banks?

Theory

- Conglomerates have greater allocative efficiency than standalone firms and can therefore raise more external funds (Stein 1997)
- In BHCs, standalone bank has access to external funding markets unavailable to the parent or non-bank (deposits)
    - Sections 23A and 23B of the Federal Reserve Act restrict the nature of transactions to prevent use of bank to provide cheap funds to affiliates

      but…

    - BHC Supervisory guidance: "**bank can transfer** a substantial portion of its **capital through dividends to the parent** company, which may pass these funds on **to the troubled non-bank** subsidiary."
- Hypothesize that BHC relies upon bank as source of funds

POLICY IMPLICATIONS

- Scope economies in banking
  - Benefits: Single-window access to financial services
  - Risks: Risk created by the non-bank segment

- Our paper highlights a different dimension of the risks created by the non-bank segment
  - Bank capital is diverted toward non-bank
  - The bank segment is used as a source of strength to the BHC, rather than the traditional view of BHC acting as a source of strength to the banks

- Hence, the dark-side result of the internal dividends in a financial conglomerate.

What We Do

- Examine 288 BHCs with reported non-bank assets during 2001-2015
- Examine the sensitivity of bank and non-bank segment level internal dividends to changes in own income, other segment income, and external dividends
- Examine the ROEs of the bank segment and non-bank segment
- Use a differences-in-differences approach surrounding the Gramm-Leach Bliley Act to assess the impact of non-bank expansion on banks

Preview of Results

- Banks (but not non-banks) bear the pressures of external dividend smoothing
  - External dividends affect bank internal dividends (not non-bank)

- Internal dividends and income
  - Banks and non-banks both pay out income increases
  - Only banks maintain internal dividends on income decreases

  → Banks increase internal dividends regardless of income changes:
  - 10 bps increase in ROA associated with 5 bps increase in internal div
  - 10 bps decrease in ROA associated with 1 bp **increase** in internal div

- Bank segment ROEs tend to be higher than non-bank segment ROEs

- Bank segment payout ratios increase 12 percentage points of BHCs "treated" by GLB relative to "control" BHCs

Literature

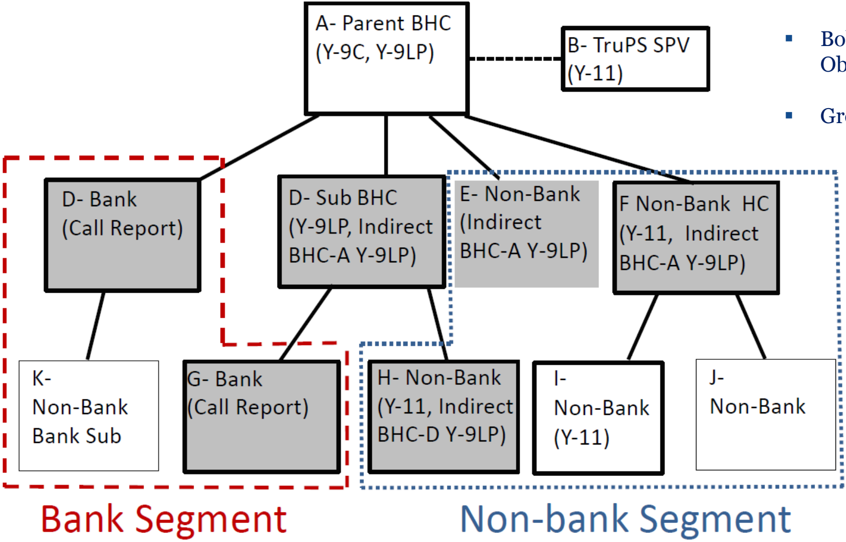
- Internal Capital Markets
  - Bright Side (Gratner et al 1994, Stein 1997); Dark Side: Scharfstein and Stein (2000), Rajan et al (2000)
  - **This paper: Dark side via exploitation of safety net**
- Internal Capital Markets at BHCs
  - Multibank (Houston et al 1997); Branches (e.g. Ben-David et al 2015); Borders: (Cetorelli and Goldberg 2012)
  - **This paper: Banks non-banks. Supply of funds vs. investment**
- Mergers and Acquisitions
  - Acquired: Erel, Jang, Weisbach (2015)
  - **This paper: Acquirer (bank)**; (proposes a new channel for relaxing financial constraints)
- Economies of scope and diversification:
  - Decreased performance: Cetorelli et al 2017; Demsetz and Strahan, 1997; Stiroh 2004; Laeven and Levine, 2007; DeYoung and Torna, 2013; Maksimovic and Phillips 2002
  - **This paper: Channel through which this works**

Data

Data sources

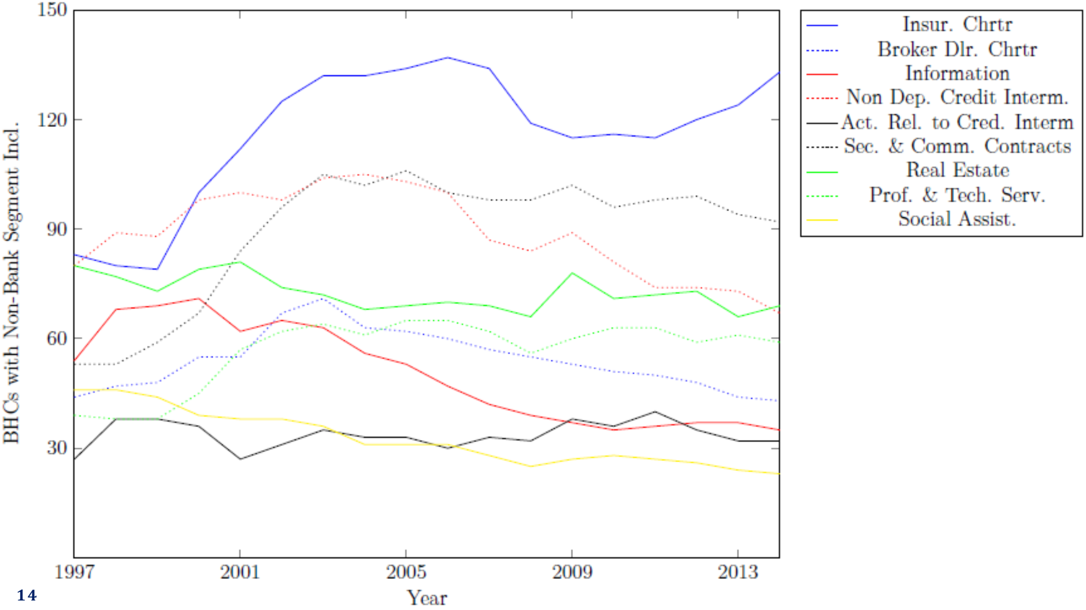
- Financial Regulatory Filings
    - Domestic **Consolidated** Holding Company (Y-9C)
    - Domestic **Parent** (Top and Intermediate) Holding Company (Y-9LP)
        - Indirect observation of subsidiaries
    - **Bank** Subsidiary (Call Report)
    - **Non-bank** Subsidiary (Y-9LP, Y-11 in robustness)
- **Structure** Data (Y-6, Y-7, Y-10)

Segment Definition and Baseline Sample



- Bold Outline = Direct Observation
- Grey = Indirect Observation

Non-Bank Subsidiary Types



Summary Stats

	2001-2007		2008-2010		2011-2015	
	mean	std	mean	std	mean	std
BHC Div/Cons Asset %	0.513	0.971	0.380	1.051	0.361	0.732
BHC Repur/Cons Asset %	0.268	0.727	0.076	0.442	0.125	0.445
Bank Inc/Cons Asset %	1.362	0.874	0.072	1.805	0.991	0.995
Bank Div/Cons Asset %	0.791	0.706	0.425	0.594	0.576	0.680
Nbank Inc/Cons Asset %	0.146	1.364	0.037	0.968	0.106	0.939
Nbank Div/Cons Asset %	0.107	1.036	0.057	0.430	0.079	0.451
Cons Asset $B	23	125	35	213	54	272
Nonbank Assets $B	6	48	9	71	14	93
Bank Assets $B	20	105	30	175	42	217
Bank Cap/Bank Asset %	9.60	3.40	9.57	2.58	10.72	2.27
BHC Cap/Cons Asset %	12.91	50.25	12.80	52.50	13.14	39.13
Nbank Cap/Nbank Asset %	44.70	40.32	52.27	41.69	57.55	39.95

Regression Framework

Regression Equation

Changes in Segment Internal Dividends on Changes to Segment Income and Affiliate Cash Flows

$$\Delta D_{ijt} = \beta_1 \Delta Inc_{ijt} + \beta_2 \Delta Inc_{j-i,t} + \beta_3 \Delta Div_{jt} + \gamma Controls_{ijt} + Year_t + \varepsilon_{ijt}$$

- Allow for asymmetric responses

$$\Delta D_{ijt} = \beta^{+} \Delta^{+} Inc_{ijt} + \beta^{-} \Delta^{-} Inc_{ijt} + .. + \varepsilon_{ijt}$$

- Segment i, for holding company j, for time t
- Δ is a first difference operator
- Scaled by consolidated (average) HC assets
- Controls (lagged)
  - Capital of segment, Size, Capital, Investment opportunity

Results

Internal Dividends: Bank and Non-Bank Segments

	ΔInternal Dividends					
	Panel A: Bank		Panel B: Nbank		Panel C: Bank	
	(1)	(2)	(3)	(4)	(5)	(6)
ΔBank Inc (+)	0.054	0.093**	-0.004	-0.003	0.059*	0.099**
	(1.61)	(2.06)	(0.61)	(0.38)	-1.66	-2.18
ΔBank Inc (-)		0.018		-0.005		0.021
		(0.48)		(0.48)		-0.5
ΔNonBank Inc (+)	-0.113	-0.27	0.182***	0.167***	-0.11	-0.254
	(0.81)	(1.47)	(4.13)	(3.87)	-0.79	-1.38
ΔNonBank Inc (-)		0.106		0.200***		0.095
		(0.49)		(3.08)		-0.45
ΔExt Div (+)	0.674***	0.747***	-0.017	-0.004	0.663***	0.747***
	(6.76)	(6.83)	(1.15)	(0.32)	-6.66	-6.87
ΔExt Div (-)		0.504**		-0.044		0.468**
		(2.57)		(1.30)		-2.39
ΔNonbank Inv					0.070**	0.074**
					(2.23)	(2.31)
Controls	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
N	1821	1821	1821	1821	1818	1818

Internal Dividends: Non-Bank Investments

	ΔInternal Dividends					
	Panel A: Bank		Panel B: Nbank		Panel C: Bank	
	(1)	(2)	(3)	(4)	(5)	(6)
ΔBank Inc (+)	0.054	0.093**	-0.004	-0.003	0.059*	0.099**
	(1.61)	(2.06)	(0.61)	(0.38)	-1.66	-2.18
ΔBank Inc (-)		0.018		-0.005		0.021
		(0.48)		(0.48)		-0.5
ΔNonBank Inc (+)	-0.113	-0.27	0.182***	0.167***	-0.11	-0.254
	(0.81)	(1.47)	(4.13)	(3.87)	-0.79	-1.38
ΔNonBank Inc (-)		0.106		0.200***		0.095
		(0.49)		(3.08)		-0.45
ΔExt Div (+)	0.674***	0.747***	-0.017	-0.004	0.663***	0.747***
	(6.76)	(6.83)	(1.15)	(0.32)	-6.66	-6.87
ΔExt Div (-)		0.504**		-0.044		0.468**
		(2.57)		(1.30)		-2.39
ΔNonbank Inv					0.070**	0.074**
					(2.23)	(2.31)
Controls	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
N	1821	1821	1821	1821	1818	1818

Efficiency of Investments

Ex-Post Return on Investment by Segment

		Bank Minus Nonbank			
		Raw ROE Diff		Sharpe Ratio	
		Mean Difference	StdErr	Mean Difference	StdErr
Nonbank Assets>0	2001-2007	0.076***	0.005	4.616***	0.150
Nonbank Assets>3%	2001-2007	0.066***	0.012	2.153***	0.336

- Also regress relative segment performance on measure of net transfers between segment and parent
  - Transfers away from bank segment and to non-bank associated with *lower* relative non-bank performance

Difference-in-Differences Analysis

Gramm Leach Bliley (GLB) Act of 1999

- Removed remaining barriers between banks and certain kinds of non-bank (e.g. securities underwriting and dealing, insurance underwriting)
  - Believed to increase efficiency due to economies of scale and scope (Broaddus 2000)
- Starting 3/13/2000, BHCs could become financial holding companies (FHCs)
  - BHCs that elected to become FHCs in 2000 had previously been constrained by regulation on non-bank expansion → "Treated" by GLB
  - BHCs that did not elect to become FHCs by year end 2003 had not been constrained by regulation → "Control"
- Use a difference-in-differences analysis to examine effect of non-bank expansion on bank internal dividends
  - Hypothesis: Use bank for funds, increase bank internal dividends

Regression Equation

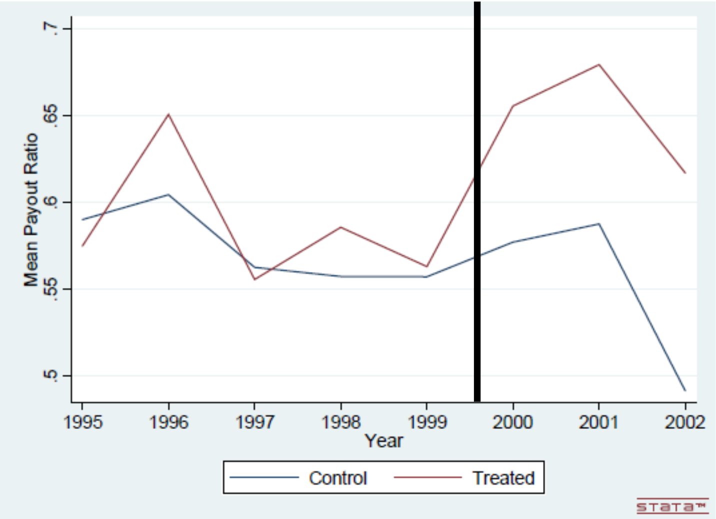
$$PayoutRatio_{it} = \beta_1 Treated_i + \beta_2 Post\_GLB_t + \beta_3 Treated_i * Post\_GLB_t + Controls_{it} + \varepsilon_{ijt}$$

- Treated BHCs are those that become FHCs during first year of eligibility
- Control BHCs do not become FHCs at any time through the end of 2003

- Parameter of interest is interaction term

- Controls
  - ROA
  - BHC External Dividend
  - Size
  - Capital

Bank Internal Dividends Payout Ratio: GLB



Internal Dividends: Non-Bank Investments

	(1)	(2)	(3)	(4)	(5)	(6)
	Payout Ratio	Payout Ratio	Payout Ratio	Payout Ratio	Payout Ratio	Dividend/Asset
	1-Year, Pooled	1-Year, Pooled	3-Year, Collapsed	3-Year, Collapsed	2-Year, Collapsed	3-Year, Collapsed
Post*Treated	0.091**	0.097**	0.121***	0.119***	0.110**	0.001**
	(1.97)	(2.07)	(2.62)	(2.63)	(2.08)	(1.98)
Post	-0.008	-0.011	-0.012	-0.004	0.006	0.000
	(0.35)	(0.48)	(0.46)	(0.15)	0.21	(0.51)
Treated	0.024	-0.071*	0.005	-0.085**	-0.086*	0.001
	(0.63)	(1.71)	(0.12)	(2.17)	(1.93)	(1.05)
Controls	N	Y	N	Y	Y	N
R-sq	0.01	0.06	0.01	0.13	0.11	0.01
N	2162	2150	828	822	823	828
Treated	586	584	207	207	208	207
Untreated	1576	1566	621	615	615	621

Conclusions

- Passage of GLB increased bank segment internal dividend payout by 12%

- Banks:
  - Bear burden of external dividend policy (non-bank do not)
  - Pay out income increases, do not cut payouts when income decreases
  - Fund non-bank investments

  → Bank income increases associated with 20 bps increase in capital,

  → Bank income decreases associated with 40 bps decrease in capital

- Transfers of capital to non-banks from banks are associated with lesser non-bank performance

- Policy Implications
  - Banks bear funding burden in BHCs ("dark side")
  - Optimal scope of banking sector should weigh this finding alongside the possible benefits of increased scope